



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

the author has succeeded in rendering visible, by making the wheel revolve on an axle of less than its own diameter; and the appearances being in this, as well as in the foregoing case, perfectly consonant to his theory, he considers the explanation given as quite satisfactory.

Dr. Roget concludes by suggesting the possibility of measuring the duration of the impression of light on the retina by observing the apparent velocity of the visible portion of the spokes.

On a new Photometer, with its application to determine the relative Intensities of Artificial Light, &c. By William Ritchie, A.M., Rector of the Academy at Tain. Communicated by the President. Read December 16, 1824. [Phil. Trans. 1825, p. 141.]

Mr. Ritchie, after a brief exposition of the theoretical views which led him to the construction of his photometer, lays down the following as the principles on which it depends:—

1. That radiant heat does not permeate glass.
2. That light is capable of combining with substances which stop it, and expanding them as heat does.
3. That the intensity of light is in the inverse ratio of the squares of the distance.

The photometer, which he then proceeds to describe, consists of two tin-plate cylinders, broad and shallow, each of which is closed at the one end with tin plate, and at the other with a disk of the thickest plate glass, both made air tight. Each of these cylinders or chambers contains in the middle a diaphragm of black paper, with its black side towards the glass, for the purpose (as he expresses it,) of absorbing the light which penetrates the glass, and instantly converting it into heat. The chambers are then fixed back to back at a little distance from each other, and connected by a bent tube in the form of the letter U, containing a small quantity of a coloured liquid.

This instrument is exposed with its glass faces opposite to two lights to be compared, and their equality is judged of by the liquid in the stem remaining stationary.

Its sensibility is described by the author as such, that a single candle placed 10, 20, or 30 feet from it visibly affects it; while a mass of heated iron affording twenty times the heat has no influence.

The author proposes his photometer as peculiarly well adapted to the measure of the quantity of light given out by gas lights. The solar light he describes as powerful enough to drive the liquid in the stem through 20 or 30 feet of tube. He states himself to have an instrument of this kind now making, with which he hopes to render sensible the effect of the moon's rays. Finally, he explains the difference between his instrument and that of Professor Leslie to consist in this,—that in the latter the difference of temperature between the two balls is the quantity measured; in the former the perfect equality of their temperatures is the essential condition.